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Angled Gold Finger Contact Pad

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Angled Gold Finger Contact Pad

Abstract: In an edge card connector system, the combination of an offset tie bar and an angled contact pad prevents gouging between PCB gold finger contact pads and female header pins and prevents connector pin sink.

This disclosure relates to the field of printed circuit boards.

A technique is disclosed that prevents gouging between PCB gold finger contact pads and female header pins so as to prevent connector pin sink.

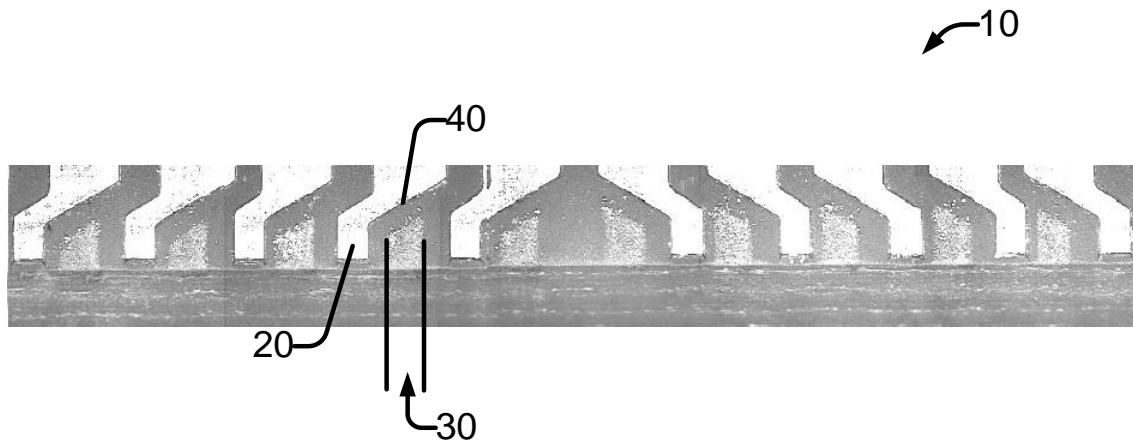
One common type of electrical connector system is an edge card connector. An edge card connector is often economically superior relative to other types of connector systems. In an edge card connector, the connection is between the gold finger contact pad of the edge card and the female pin in the header. As the connector pitch becomes smaller, it results in higher Hertzian stress at the contact point. As a result, the leading edge of the gold finger contact pad often gouges into the header female pin during insertion of the edge card into the header. This gouging leads to pin sink, which in turn can cause a reduction or a loss of contact between the contact pad and the female pin.

According to the present disclosure, and as understood with reference to the Figure, in an edge card connector 10, the roughened tie bar 20 is offset away from the landing zone 30, and the etched leading edge 40 is angled, to prevent a straight-on impact from the female pin. This geometry reduces or prevents female pin gouging, and avoids pin sink.

During insertion, the female pin misses the rough tie bar 20, and rides through the angled edge 40. The angled edge 40 allows the female pin to deflect sideways, if needed, to avoid being gouged.

The amount of tie bar offset may be maximized within the available space. In one example, the angle of offset should be about 30 degrees. The angle may be different in other examples.

The disclosed technique advantageously enables a tight pitch card edge to make a good connection to female pins in the header.



Disclosed by Vibora Sim, Hewlett Packard Enterprise